

## ABSTRACT

### ADJUSTABLE-THRESHOLD SWITCH

5        Provided are methods and compositions for regulating gene expression in a cell. The  
invention provides recombinant adjustable-threshold switches which contain a first inducible  
promoter-regulatory gene operon and a second constitutive promoter-regulatory gene operon. A  
threshold amount of activating agent is required to switch the inducible promoter "on" and the  
constitutive promoter "off". An adjustable-threshold switch is useful to reversibly switch the  
10      expression of a gene of interest between a stable "on" state and stable "off" state in response to  
an activating agent at or above a threshold concentration.

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